MULTIMEDIA UNIVERSITY*

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 3, 2022/2023

BFM1024 – FINANCIAL MANAGEMENT

(All Sections/Groups)

2 OCTOBER 2023
9.00 A.M – 11.00 A.M
2 HOURS

INSTRUCTIONS TO STUDENT

1. This question paper consists of 5 pages excluding cover page.
2. Attempt **ALL** questions.
3. Please write all your answers in the Answer Booklet provided.

INSTRUCTION: ANSWER ALL QUESTIONS

QUESTION 1

A. John just bought a new Honda WR-V for his business. The price of the vehicle was RM95,000. John made a RM5,000 down payment and took out an amortized loan for the rest. The car dealership made the loan at 9% interest compounded monthly for five years. He is to pay back the principal and interest in equal monthly installments beginning one month from now.

a. What is the amount of John's monthly payment? (3 marks)
b. What is the total amount that John needs to pay to the bank? (2 marks)
c. What is the total interest that John will be paying to the bank after 5 years. (2 marks)
d. Briefly explain THREE (3) factors that John should consider before signing the car loan. (6 marks)

B. Blue Ocean Cruises sold an issue of 12-years RM1,000 par bonds to build new ships. The new ship cost is estimated to be RM 1.5 million. The bonds pay 4.8% interest annually. Today's yield to maturity is 9.7%.

a. What is the amount of annual interest payment? (2 marks)
b. How much should each of these bonds sell for today? (4 marks)
c. If Blue Ocean Cruises issues 2,500 units of the bonds, will it be enough to cover the cost of the new ship? (3 marks)
d. Define interest rate risk. How does a bond's level of interest rate risk depend on its maturity? (3 marks)

(Total: 25 marks)

QUESTION 2

A. Transformer Inc. is considering the following 2 mutually exclusive new ventures. With the assumption of 14% discount rate, the projected cash flows for these ventures are as follows:

Ventures	Initial Outlay	Net Cash Flow Each Period			
		1	2	3	4
Optimus	-2,000,000	500,000	730,000	850,000	920,000
Prime	-3,000,000	0	0	2,000,000	2,500,000

a. What is the net present value (NPV) of each of the above ventures? (6 marks)
b. What is the profitability index (PI) for each venture? (4 marks)
c. What is the payback period (PP) for each venture? (4 marks)
d. Based on the analysis above, which venture should Transformer Inc. consider for their investment? Justify. (2 marks)

B. You are in charge of one division of Super Surplus Inc. Your division is subject to capital rationing. Your division has 4 indivisible projects available, detailed as follows:

Project	Initial Outlay	IRR	NPV (RM)
1	2 million	18%	2,500,000
2	1 million	15%	950,000
3	1 million	10%	600,000
4	3 million	9%	2,000,000

a. If you must select projects subject to a budget constraint of RM 5 million, which set of projects should be accepted so as to maximise firm value? (3 marks)
b. Briefly explain THREE (3) reasons why capital budgeting decision is crucial to any firm's strategic planning. (6 marks)

(Total: 25 marks)

QUESTION 3

A. Energy Corporation is expected to pay an annual dividend of RM1 at the end of the current year. Energy Corporation pays its dividends annually. The dividend is expected to grow quickly over the first year at the rate of 20%. Starting two years from today the growth rate of dividends will fall to a rate of 3% and continue at that rate in perpetuity. Investors require a 12% return on the share.

a. Estimate the market price of the shares of Energy Corporation in one year's time (P_1) just after the next dividend is paid. (4 marks)
b. What will be the estimated market price in five years' time (P_5)? (2 marks)
c. If you decided to buy the share in year 1 and sell it in year 5, what will be the capital gain amount? (2 marks)
d. Briefly explain TWO (2) main reasons why people invest in shares? (4 marks)

B. Assume the market value of Exoras' equity, preferred stock and debt are RM7 billion, RM4 billion and RM10 billion respectively. Exora has a beta of 1.4, the market risk premium is 6% and the risk-free rate of interest is 4%. Exora's preferred stock pays a dividend of RM3 each year and trades at a price of RM25 per share. Exora's debt trades with a yield to maturity of 8.5%.

a. What is Exora's cost of equity? (2 marks)
b. What is Exora's cost of debt? (2 marks)
c. What is Exora's cost of preferred stock? (2 marks)
d. What is Exora's weighted average cost of capital if its tax rate is 35%? (4 marks)
e. List THREE (3) factors that affected the overall cost of capital. (3 marks)

(Total: 25 marks)

QUESTION 4

A. Barbie Industries had sales (credit) of RM980 million, and a cost of goods sold of RM560 million in 2023. A simplified balance sheet for the firm appears below:

Barbie Industries
Balance Sheet
As of December 31, 2023
(Millions of dollars)

Assets		**Liabilities and Equity**	
Cash	25	Accounts payable	60
Accounts receivable	85	Notes payable	425
Inventory	90	Accruals	45
Total current assets	**200**	**Total current liabilities**	**530**
Net plant, property, and equipment	6,100	Long term debt	2,725
		Total liabilities	**3,255**
		Common equity	3,045
Total assets	**6,300**	**Total liabilities and equity**	**6,300**

Based on the above extracted financial information, calculate the amount required below.

a. Barbie's inventory period. (3 marks)
b. Barbie's accounts receivable period. (3 marks)
c. Barbie's accounts payable period. (3 marks)
d. Barbie's operating cycle. (2 marks)
e. Barbie's cash conversion cycle. (2 marks)

B. Mountain Snow Sports, Inc. is trying to determine the optimal order quantity for snowboards for the next twelve months. Annual sales are expected to be 1,000,000 units at a retail price of RM400 each. The cost of carrying snowboards is RM80 per year. Studies show that it costs (fixed) Mountain Snow RM250 to prepare and receive an order.

a. What is the economic order quantity (EOQ)? (2 marks)
b. What is the total carrying cost? (2 marks)
c. What is the total restocking cost? (2 marks)
d. What is the total inventory cost? (2 marks)
e. The economic order quantity (EOQ) model is well accepted. However, there are weaknesses associated with several of its assumptions. What are TWO (2) of these weaknesses? (4 marks)

(Total: 25 marks)

FORMULA

Future Value:

$FV = PV(1 + r)^t$

Annuities

$$PV = PMT\left[\frac{1-\frac{1}{(1+r)^t}}{r}\right]$$

$$FV = PMT\left[\frac{(1+r)^t-1}{r}\right]$$

Perpetuity: PV = PMT / r

EAR & APR

$$EAR = \left[1+\frac{APR}{m}\right]^m - 1$$

$$APR = m\left[(1+EAR)^{1/m} - 1\right]$$

Bond Pricing

$$\text{Bond Value} = C\left[\frac{1-\frac{1}{(1+YTM)^t}}{YTM}\right] + \frac{F}{(1+YTM)^t}$$

Stock Value

$$\hat{P}_0 = \sum_{t=1}^{\infty}\frac{D_t}{(1+R)^t}$$

Estimating Dividends

Zero growth: $P_0 = D / R$

Constant Growth Stock: $D_t = D_0(1+g)^t$

Dividend Growth Model:

$$\hat{P}_0 = \frac{D_0(1+g)}{R-g} = \frac{D_1}{R-g}$$

Nonconstant + Constant growth

$$\hat{P}_0 = \frac{D_1}{(1+R)^1} + \frac{D_2}{(1+R)^2} + \frac{D_3}{(1+R)^3} + \ldots + \frac{D_\infty}{(1+R)^\infty}$$

Net Present Value

$$NPV = \sum_{t=0}^{n}\frac{CF_t}{(1+R)^t} - CF_0$$

Cost of equity

$$R_E = R_f + \beta_E(E(R_M) - R_f)$$

WACC

$= E/V \times R_E + P/V \times R_P + D/V \times R_D(1 - T_C)$

Operating cycle = inventory period + accounts receivable period

Cash Cycle = Operating Cycle – Accounts payable period

EOQ Model

$$Q^* = \sqrt{\frac{2TF}{CC}}$$

End of Paper